Informatics Practices

ORIGINAL STUDY COMPANION
PADIKAM
CLASS 11 | COMMERCE / HUMANITIES / ELECTIVE
Informatics Practices
CBSE / NCERT core lessons | Academic year 2026-27
8 chapter lessons
Quick explanations, core points, exam practice and chapter-specific notation in one
consistent format.
Padikam explanations are independently written. Official textbooks are used as the coverage map, chapter sequence and terminology
reference.

Contents
01 Computer System
02 Emerging Trends
03 Brief Overview of Python
04 Working with Lists and Dictionaries
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Study rhythm
Read the quick explanation, recall the core points aloud, then answer the prompts without looking
back. Use the official textbook links for full prescribed readings, activities and diagrams.
Textbook and verification links
1. https://cbseacademic.nic.in/web_material/CurriculumMain27/SecPart2/Informatics_Practices_SecP2_2026-27.pdf
2. https://ncert.nic.in/textbook.php?keip1=0-8
3. https://cbseacademic.nic.in/new-resources-srsec.html

CHAPTER 01
Computer System
Quick understanding
Connect computer components, memory, software and data recovery with reliable everyday use.
Core points Check your learning
Input, processing, storage and output form a Label a computer-system block diagram.
functional cycle.
Explain secure disposal and recovery
Primary and secondary memory differ in speed, risks.
capacity and persistence.
Deletion may remove a reference before stored data
is overwritten.
One-line recall Input, processing, storage and output form a functional cycle.

CHAPTER 02
Emerging Trends

Quick understanding
Survey AI, machine learning, NLP, AR/VR, robotics, big data, IoT, cloud, grid and blockchain technologies.
Core points Check your learning
Emerging systems often combine sensors, data, networks and models.
Compare SaaS, PaaS and IaaS.
Design and critique a smart-city use case.
Cloud service models divide responsibility differently.
A useful evaluation considers purpose, data, risk, cost and inclusion.
One-line recall Emerging systems often combine sensors, data, networks and models.

CHAPTER 03
Brief Overview of Python
Quick understanding
Write simple Python programs using variables, operators, expressions, conversion, input-output and debugging.
Core points Check your learning
Indentation is part of program structure.
Mutable and immutable types behave differently
A correct-looking program may still contain a logical error.
Predict output and data types.
Write a program for price, discount and tax.
Code pattern
```
cost = float(input("Cost: "))
discount = cost * rate / 100
print(cost - discount)
```
One-line recall Indentation is part of program structure.

CHAPTER 04
Working with Lists and Dictionaries
Quick understanding
Organise collections with list positions or dictionary keys and use loops and methods to transform them.
Core points Check your learning
Lists are ordered and mutable.
Find largest, smallest and frequency values in a list.
Dictionaries model records and mappings.
Create a state-capital or student-marks dictionary.
Choose a structure that matches how information will be retrieved.
Code pattern
```
values.sort()
capital[state] = city
for name, mark in marks.items():
print(name, mark)
```
One-line recall Lists are ordered and mutable.

CHAPTER 05
Understanding Data
Quick understanding

Recognise data types, quality, organisation and the path from raw values to useful information.
Core points Check your learning
Context and metadata give values meaning. Classify fields in a sample dataset.
Missing, inconsistent and duplicate values reduce Identify data-quality problems and
quality. cleaning actions.
Collection and analysis should respect privacy and
purpose.
One-line recall Context and metadata give values meaning.
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CHAPTER 06
Introduction to NumPy
Quick understanding
Create one-dimensional arrays and use vectorised operations for compact numerical work.
Core points Check your learning
ANumPy array normally holds one data type. Create an array from a list and calculate
values.
Vectorised operations act element by element
without an explicit Python loop. Compare an array operation with a list
operation.
Shape and index rules determine valid access.
Code pattern
```
import numpy as np
a = np.array([2, 4, 6])
print(a * 3)
```
One-line recall ANumPy array normally holds one data type.
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CHAPTER 07
Database Concepts
Quick understanding
Model structured data through relations, attributes, tuples, domains and keys.
Core points Check your learning
ADBMS supports controlled storage, retrieval and Identify candidate, primary and alternate
updating. keys.
Aprimary key uniquely identifies a row. Design a relation for a school or shop.
Good design reduces unnecessary duplication and
inconsistency.
One-line recall ADBMS supports controlled storage, retrieval and updating.
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CHAPTER 08
Introduction to Structured Query Language
Quick understanding
Create and modify databases and tables, then retrieve or change rows with clear SQL statements.
Core points Check your learning
DDL defines structures; DML changes rows; queries Write CREATE TABLE and INSERT
retrieve data. statements.
WHERE filters rows using conditions. Write SELECT queries using WHERE,
BETWEEN and logical operators.
NULL represents missing or unknown data and
needs IS NULL tests.
Code pattern
```
CREATE TABLE Student (
Rno INT PRIMARY KEY,
```

```
Name VARCHAR(30),
Marks INT
);
SELECT Name, Marks FROM Student WHERE Marks > 50;
```

One-line recall DDL defines structures; DML changes rows; queries retrieve data.

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